In the claims:

All pending claims are set forth here. Amend claims 4 and 9-12 to read as follows. Cancel claim 48 and add new claim 49, which reads as follows.

1-3 (canceled).

4 (currently amended). The composite structure of claim [[48]] 49, wherein said processing aid comprises silicon hexaboride.

5-8 (canceled).

9 (currently amended). The composite structure of claim {[48]] 49, wherein said first layer material impregnates said substrate to a depth of approximately 0.1 inches.

10 (currently amended). The composite structure of claim [[48]] 49, wherein said substrate material is selected from the group consisting of a fibrous and open pore silica, silicon carbide, aluminosilicate, silicon oxycarbide and carbon substrates.

11 (currently amended). The composite structure of claim [[48]] 49, wherein at least one component of said second layer has a particle size less than about 5 μm.

12 (currently amended). The composite structure of claim [[48]] 49, wherein at least one component of said second layer has a particle size distribution having a maximum of approximately 5 μm and a mode of approximately 1 μm.

13-48 (canceled).

49 (new). A porous substrate, having a lower surface and an upper surface, of a selected substrate material comprising at least one of carbon and silicon carbide, and having a substrate coefficient of thermal expansion;

a first layer, integrated with an exposed surface of the substrate, wherein the first layer material comprises tantalum disilicide and molybdenum disilicide, present in a ratio of n1/(1-n1) with n1 = 20 – 80 percent, boroslicate glass, present in an amount 40-80 percent, and a processing aid, with the first layer being positioned adjacent to the substrate upper surface;

a second layer, having a material composition different from the first layer, with the first layer being positioned between the second layer and the substrate, wherein the second layer material comprises tantalum disilicide and molybdenum disilicide, present in a ratio of n2/(1-n2), where n2 lies in a range $n1 \leq n2 \leq 80$ percent, boroslicate glass, present in an amount 40-80 percent,

wherein a composition of the first layer and a composition of the second layer are chosen so that a coefficient of thermal expansion of the first layer is approximately the same as the coefficient of thermal expansion of the substrate; and

wherein the combined first and second layers provide a protective layer when exposed to temperatures around 3000 ^{o}F.